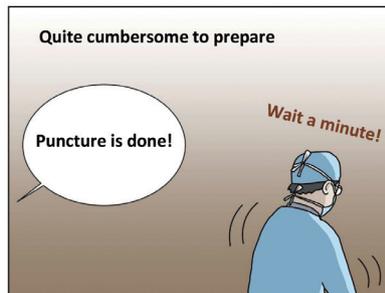
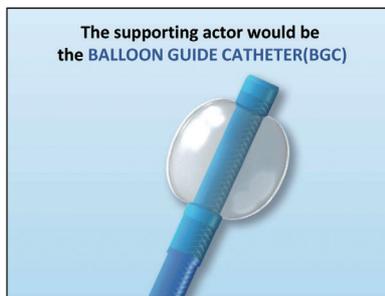
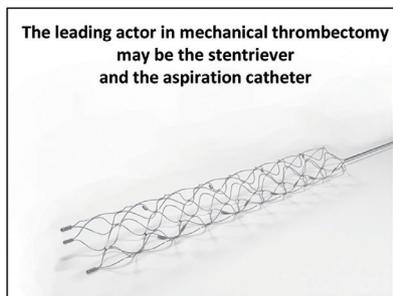




Recent Trend for Endovascular Treatment in Patients with Acute Ischemic Stroke: Balloon Guide Catheter

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According to the recent publication in *Stroke*, successful recanalization rate and first pass recanalization rate were significantly higher in the BGC group compared to non-BGC group.

The use of BGC was an independent factor for successful recanalization and a favorable outcome irrespective of the type of first-line endovascular modality used.

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In the era of endovascular treatment for patients with acute ischemic stroke, fast and complete recanalization of the occluded vessel are associated with improved outcomes. To achieve this goal, the balloon guide catheter as well as stent-retriever or distal access catheter plays an important role. By inflating the balloon, the balloon guide catheter can arrest antegrade flow, which prevents distal migration of clots and enhances aspiration force.

In a recent meta-analysis, patients treated with a balloon guide catheter for mechanical thrombectomy showed higher odds of first-pass recanalization (odds ratio [OR], 2.1; 95% confidence interval [CI], 1.7–2.6) and modified Rankin Scale 0–2 (OR, 1.84; 95% CI, 1.5–2.2) compared to non-balloon guide catheter group.¹ Baek et al.² investigated the effect of the balloon guide catheter not only in mechanical thrombectomy but also in aspiration thrombectomy. The balloon guide catheter group demonstrated significantly higher successful recanalization rate (87%) and higher first-pass recanalization rate (37%) compared to those of non-balloon guide catheter group (75% and 14%, respectively; $P < 0.001$ each). In addition, the balloon guide catheter group revealed a significantly fewer number of device passes (2.5) and shorter procedural time (54 minutes) compared to those of non-balloon guide catheter group (3.3 and 68 minutes, respectively; $P < 0.001$ each). Moreover, the use of a balloon guide catheter was an independent factor for successful recanalization (OR, 2.2; 95% CI, 1.5–3.1) and a favorable outcome (OR, 1.4; 95% CI, 1.0–1.9) regardless of the type of first-line endovascular

modality used. The European Stroke Organisation (ESO) - European Society for Minimally Invasive Neurological Therapy (ESMINT) guideline recommends that any mechanical thrombectomy procedure should be preferably conducted together with a proximal balloon guide catheter.³

In summary, the balloon guide catheter by using mechanical thrombectomy as well as aspiration thrombectomy in endovascular treatment for acute ischemic stroke may be beneficial in terms of recanalization success and functional outcome.

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